What Is Claimed Is:

1. A method for manufacturing a composite component, a brake disk in particular, including the following steps:
- producing a porous ceramic blank;
- infiltrating or filling the porous ceramic blank with a metal melt,
wherein an alloy of copper and at least one additional metal is used as the metal melt, the additional metal being converted via a reaction with at least one reactive component of the blank in such a way that a pore space of a ceramic phase is filled with essentially pure copper.

2. The method as recited in Claim 1,
wherein the metal melt is infiltrated at a temperature which is lower than the melting point of copper and is preferably between approximately 680°C and 1,000°C.

3. The method as recited in Claim 1 or 2,
wherein the blank, infiltrated with the metal melt, is subjected to controlled post-heating.

4. The method as recited in one of Claims 1 through 3,
wherein the blank is provided with a porosity of approximately 50% by volume.

5. The method as recited in one of Claims 1 through 4,
wherein the additional metal of the alloy has a lower specific weight than copper, and a CuMg alloy, a CuAl alloy, a CuSi alloy, a CuZr alloy, or a CuTi alloy is preferably used as the alloy.

6. The method as recited in one of Claims 1 through 5,
wherein the reactive constituents of the blank are formed by at least one oxide, TiO_2, Al_2O_3 and/or ZrO_2 in particular, of at least one carbide and/or at least one nitride.

7. The method as recited in one of Claims 1 through 6,
wherein the blank includes constituents which are inert vis-à-vis the metal melt and are made, in particular, of particles or fibers which are formed by an oxide, a carbide, a nitride, or a boride.

8. The method as recited in Claim 7,
wherein the inert components of the blank are used as reinforcement elements and/or functional elements of the finished composite component.

9. A metal-ceramic component, a brake disk in particular, including a ceramic phase which is provided with a pore space which is filled with essentially pure copper, wherein the ceramic phase includes a conversion product, made up of a reactive ceramic portion and a metal of a copper alloy, which has a lower specific weight than copper.

10. The metal-ceramic component as recited in Claim 9,
wherein the copper alloy is a CuAl alloy, a CuMg alloy, a CuSi alloy, a CuZr alloy, or a CuTi alloy and the conversion product is formed by aluminum oxide and titanium aluminide, $MgAl_2O_4$ or $MgTiO_3$, a silicide such as $TiSi_2$ or Ti_5Si_3, by zirconium dioxide ZrO_2, or titanium dioxide TiO_2.

11. The metal-ceramic component as recited in Claim 9 or 10,
characterized by a copper content between 20% by volume and 45% by volume, preferably between 25% by volume and 40% by volume, and a ceramic content between 55% by volume and 80% by volume, preferably between 60% by volume and 75% by volume.

12. The metal-ceramic component as recited in one of Claims 9 through 11,
wherein the ceramic portion includes particles and/or fibers made of at least one oxide, at least one carbide, at least one nitride and/or at least one boride.

13. The metal-ceramic component as recited in one of Claims 9 through 12, characterized by a fracture toughness greater than 10 $MPa{\cdot}m^{1/2}$, preferably greater than 15 $MPa{\cdot}m^{1/2}$.

14. The metal-ceramic component as recited in one of Claims 9 through 13 characterized by a thermal conductivity of more than 50 W/mK, preferably more than 70 W/mK.